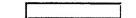


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Searches: Advanced | Material Type | Property | Composition | Trade Name | Manufacturer





GE Plastics ULTEM 1000 Polyetherimide (North America)



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Material

Subcategory: Polyetherimide; Polymer; Thermoplastic

Material Notes:

Information provided by GE Plastics for their North American product line. MatWeb has a separate entry for the El data sheet.

Click here to view available vendors for this material.

Physical Properties	Metric	English	Cı
Density	1.27 g/cc	0.0459 lb/in ³	AS ⁻
Water Absorption	<u>0.25 %</u>	0.25 %	24 hours @ 73F; AS
Water Absorption at Saturation	<u>1.25 %</u>	1.25 %	Equilibrium, 73F; AS
Linear Mold Shrinkage	0.005 - 0.007 cm/cm	0.005 - 0.007 in/in	Flow, 0.125 inch; AS
Melt Flow	9 g/10 min	9 g/10 min	337C/6.6 kgf; ASTI
Mechanical Properties			
Hardness, Rockwell M	109	109	AS.
Tensile Strength @ Yield	<u>110 MPa</u>	16000 psi	Type I, 0.2 in/min; AS
Elongation at Break	<u>60 %</u>	60 %	Type I, 0.2 in/min; AS
Elongation at Yield	<u>7 %</u>	7 %	Type I, 0.2 in/min; AS
Tensile Modulus	3.59 GPa	520 ksi	0.2 in/min; AS
Flexural Modulus	3.52 GPa	510 ksi	0.10 in/min, 4" span:
Flexural Yield Strength	<u>165 MPa</u>	24000 psi	0.10 in/min, 4" span:
Poisson's Ratio	0.36	0.36	AS.
Izod Impact, Unnotched	<u>13.3 J/cm</u>	25 ft-lb/in	73F; AST
Gardner Impact	<u>36.6 J</u>	27 ft-lb	73F; AST
Taber Abrasion, mg/1000 Cycles	10	10	CS-17, 1 kg; ASTI

Izod Impact, Notched	0.534 J/cm	1 ft-lb/in	73F; AS
Izod Impact, Notched	13.3 J/cm	25 ft-lb/in	Reverse Notched, 73F:
Electrical Properties			
Volume Resistivity	1e+017 ohm-cm	1e+017 ohm-cm	AS.
Dielectric Constant	3.15	3.15	100 Hz; AS
Dielectric Constant	3.15	3.15	1 kHz; AS
Dielectric Strength	19.7 kV/mm	500 V/mil	in oil, 125 mils; AS
Dielectric Strength	28 kV/mm	710 V/mil	in oil, 62 mils; AS
Dielectric Strength	32.7 kV/mm	831 V/mil	in air, 62 mils; AS
Dissipation Factor	0.0012	0.0012	1 kHz; AS
Dissipation Factor	0.0015	0.0015	100 Hz; AS
Dissipation Factor	0.0025	0.0025	2450 MHz; AS
Arc Resistance	120 - 180 sec	120 - 180 sec	Tungsten (+/- 0.125 ir Code 5; AS
Comparative Tracking Index	100 - 175 V	100 - 175 V	(+/- 0.125 inch); PL(
Hot Wire Ignition, HWI	60 - 120 sec	60 - 120 sec	(+/- 0.125 inch); PL(
High Amp Arc Ignition, HAI	15 - 30 arcs	15 - 30 arcs	Surface (+/- 0.125 ir Code 3;
High Voltage Arc-Tracking Rate, HVTR	25.4 - 80 mm/min	1 - 3.15 in/min	(+/- 0.125 inch); PL(
Thermal Properties			
CTE, linear, 212°F (100°C)	<u>54 μm/m-°C</u>	30 µin/in-°F	Cross Flow; 0F to 30(
CTE, linear, 212°F (100°C)	55.8 µm/m-°C	31 µin/in-°F	Flow, 0F to 300F; AS
Thermal Conductivity	•	1.53 BTU-in/hr-ft²-°F	AS
Deflection Temperature at 0.46 MPa (66 psi)	210 °C	410 °F	0.250 inch, unanneale
Deflection Temperature at 1.8 MPa (264 psi)	<u>201 °C</u>	394 °F	0.250 inch, unanneale
V64-0-6	242.02		
Vicat Softening Point	219 °C	426 °F	Rate B; AST
UL RTI, Electrical	<u>170 °C</u>	338 °F	
UL RTI, Mechanical with Impact	<u>170 °C</u>	338 °F	
UL RTI, Mechanical without Impact	<u>170 °C</u>	338 °F	
Flammability, UL94	V-0	V-0	5VA;
Flammability, UL94	V-0	V-0	•
NBS Smoke Density	0.7	0.7	Flaming, Ds 4 min; AS
NBS Smoke Density	30	30	Flaming, Dmax 20 min
Oxygen Index	<u>47 %</u>	47 %	AST

Descriptive Properties

CSA File No. LS88480 UL File Number, USA E121562



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